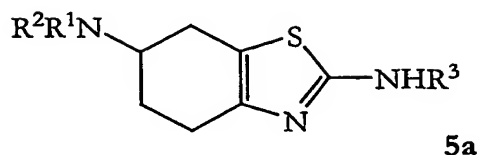


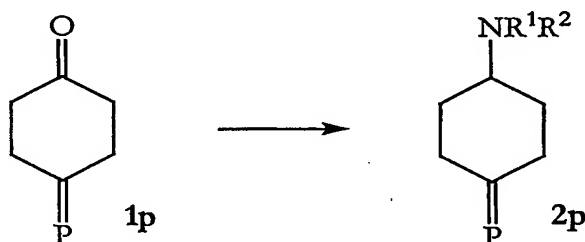
## Claims

1. A process for the preparation of a 2-amino-4,5,6,7-tetrahydro-6-aminobenzothiazole 5a



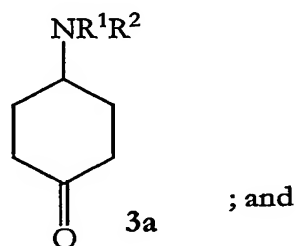
or a salt thereof, comprising the steps of:

(a) reductively aminating a protected cyclohexandione **1p** with an amine  $R^1R^2NH$  to yield a protected 4-amino-cyclohexanone **2p**:



wherein P is a protected ketone functionality, and  $R^1$  and  $R^2$  are any atom or group or, together with the nitrogen to which they are attached, form a ring;

(b) deprotecting the protected 4-amino-cyclohexanone **2p** to yield an unprotected 4-amino-cyclohexanone **3a**



(c) treating the unprotected 4-amino-cyclohexanone **3a** with iodine and a substituted thiourea  $H_2N(C=S)NHR^3$ , wherein  $R^3$  is any atom or group, to yield the 2-amino-4,5,6,7-tetrahydro-6-aminobenzothiazole **5a** or a salt thereof.

2. A process as claimed in claim 1, wherein P is a cyclic ketal **1r**.

3. A process as claimed in claim 2, wherein P is a monoethyleneketal 1.

4. A process as claimed in any preceding claim, wherein  $R^1$ ,  $R^2$  and  $R^3$  are independently hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group, which may include one or more heteroatoms N, O or S in its carbon skeleton.

5. A process as claimed in any preceding claim, wherein  $R^1$ ,  $R^2$  and  $R^3$  are independently hydrogen or an unsubstituted alkyl, aryl or heteroaryl group, which does not include any heteroatoms N, O or S in its carbon skeleton.

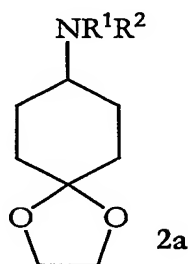
6. A process as claimed in any preceding claim, wherein one of  $R^1$  and  $R^2$  is hydrogen and the other of  $R^1$  and  $R^2$  is an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group, which may include one or more heteroatoms N, O or S in its carbon skeleton.

7. A process as claimed in claim 6, wherein one of  $R^1$  and  $R^2$  is hydrogen and the other of  $R^1$  and  $R^2$  is *n*-propyl.

8. A process as claimed in any preceding claim, wherein  $R^3$  is hydrogen.

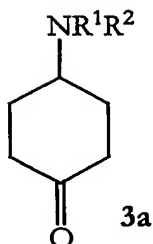
9. A process as claimed in any preceding claim, wherein the reductive amination of step (a) is carried out with  $\text{NaCNBH}_3$ .

10. A 4-amino-cyclohexanone-ethyleneketal 2a



for use in a process as claimed in any one of claims 1 to 9.

11. A 4-amino-cyclohexanone 3a



for use in a process as claimed in any one of claims 1 to 9.

5 12. A compound as claimed in claim 10 or claim 11, wherein one of R¹ and R² is hydrogen and the other of R¹ and R² is *n*-propyl.

13. A 2-amino-4,5,6,7-tetrahydro-6-aminobenzothiazole 5a or a salt thereof, obtained by a process as claimed in any one of claims 1 to 9.

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14. A compound as claimed in claim 13, wherein one of R¹ and R² is hydrogen and the other of R¹ and R² is *n*-propyl, and wherein R³ is hydrogen.

15 15. A compound as claimed in claim 13 or claim 14, wherein the compound is a di-hydrochloric acid salt.

16. A compound as claimed in any one of claims 13 to 15, comprising at least 95% of the (R)- or the (S)-enantiomer.

20 17. A compound as claimed in any one of claims 13 to 16 for use as a medicament.

18. A compound as claimed in claim 17, wherein the medicament is suitable for the treatment of a psychiatric or neurological disorder.

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19. A compound as claimed in claim 18, wherein the psychiatric or neurological disorder is schizophrenia, Alzheimer's disease or Parkinson's disease.

20. A pharmaceutical composition, comprising a compound as claimed in any one of claims 13 to 19 and a pharmaceutically acceptable carrier or diluent.

21. A pharmaceutical composition as claimed in claim 20, suitable for the treatment of a psychiatric or neurological disorder.

22. A pharmaceutical composition as claimed in claim 21, wherein the psychiatric or neurological disorder is schizophrenia, Alzheimer's disease or Parkinson's disease.

23. A method of treating a psychiatric or neurological disorder, comprising administering a therapeutically effective amount of a 2-amino-4,5,6,7-tetrahydro-6-aminobenzothiazole 5a or a salt thereof as claimed in any one of claims 13 to 19 to a subject in need of such treatment.

24. A method as claimed in claim 23, wherein the psychiatric or neurological disorder is schizophrenia, Alzheimer's disease or Parkinson's disease.